

Safety Checklist for Microbiology in Room 2175

Welcome to Microbiology 233 at Truman College, one of the City Colleges of Chicago. Room 2175 is considered a Biosafety Level 2 Laboratory (BSL-2). According to the CDC BSL-2 is a laboratory that will have a moderate hazard to both personnel (instructor and students) and the surrounding environment. The staff and the instructor have been trained in handling pathogenic agents, infectious agents and associated procedures. There are standard microbiological practices that you need to abide by when working in this lab. Below is a list that will explain just that.

1. The laboratory supervisor or instructor must enforce the policies of the City Colleges of Chicago that control access to the laboratory. In other words, students are not to be left unattended during a laboratory procedure.
2. All instructors, students, lab staff must wash their hands after working with potentially hazardous materials such as bacteria, and before leaving the laboratory.
3. Eating, drinking, smoking, handling contact lenses, applying cosmetics, and storing food for human consumption is not permitted in laboratory areas. Food cannot be stored in the laboratory area.
4. Mouth pipetting is strictly prohibited. Mechanical pipetting devices are provided for use during a laboratory procedure.
5. Policies for the safe handling of sharps, such as needles, scalpels, pipettes, and broken glassware must be developed and implemented. Whenever practical, laboratory instructors should implement policies that will reduce risk of sharps injuries. Precautions need to be taken, including those listed below, must always be taken with sharp items. These include:
 - a. Careful management of needles and other sharps are of primary importance. Needles must not be bent, sheared, broken, recapped, removed from disposable syringes, or otherwise manipulated by hand before disposal.
 - b. If needles or syringes are used during lab, please dispose of them carefully in a puncture-resistant container that is just for sharps disposal.
 - c. Any non-disposable objects that are sharp must be put in a hard walled container that will be transported for decontamination, by autoclaving.
 - d. Broken glassware must not be handled directly. Please let the lab staff or instructor handle any broken glass. They will use a broom, brush and dustpan. When possible, please use plastic ware instead of glassware.
6. Perform all procedures to minimize the creation of splashes and/or aerosols.
7. Decontaminate/disinfect all work surfaces after completion of the assigned laboratory work and if there is any spill or splash of potentially infectious material with appropriate disinfectant. When in doubt, please ask your instructor or any available lab staff for help.
8. Decontaminate all cultures, stocks, and other potentially infectious materials before disposal using an effective method such as autoclaving. Depending on where the decontamination will be performed, the following methods should be used prior to transport.
 - All material that is to be decontaminated outside of the laboratory must be placed in a durable, leak proof container and secured for transport.
9. A sign incorporating the universal biohazard symbol is posted at the entrance to the laboratory when infectious agents are present. The instructor or lab staff will inform the students of the name of the microbe that is to be used during every laboratory assignment.

B. Special Practices

1. All persons entering the laboratory must be advised of the potential hazards and meet specific entry/exit requirements.
2. Potentially infectious materials must be placed in a durable, leak proof container during collection, handling, processing, storage, or transport within a facility.
3. Laboratory equipment should be routinely decontaminated, as well as, after spills, splashes, or other potential contamination.
8. Incidents that may result in exposure to infectious materials must be immediately evaluated and treated according to procedures described in the laboratory biosafety manual. All such incidents must be reported to the laboratory supervisor.
10. All procedures involving the manipulation of infectious materials that may generate an aerosol should be conducted within a Biological Safety Cabinet (BSC) or other physical containment devices.

C. Safety Equipment (Primary Barriers and Personal Protective Equipment)

1. Properly maintained BSCs, other appropriate personal protective equipment, or other physical containment devices must be used whenever:
 - Procedures with a potential for creating infectious aerosols or splashes are conducted. These may include pipetting, centrifuging, grinding, blending, shaking, mixing, sonicating, and opening containers of infectious materials.
2. Protective laboratory coats, gowns, or uniforms designated for laboratory use must be worn while working with hazardous materials. Remove protective clothing before leaving the laboratory. Dispose of protective clothing appropriately, or deposit it for laundering by the lab staff. It is recommended that laboratory clothing not be taken home.
3. Eye and face protection (goggles, mask, face shield or other splatter guard) is used for anticipated splashes or sprays of infectious or other hazardous materials when the microorganisms must be handled outside the BSC or containment device. Eye and face protection must be disposed of with other contaminated laboratory waste or decontaminated before reuse. Persons who wear contact lenses in laboratories should also wear eye protection.
4. Gloves must be worn to protect hands from exposure to hazardous materials. Glove selection should be based on an appropriate risk assessment. Alternatives to latex gloves should be available. Gloves must not be worn outside the laboratory. In addition, BSL-2 laboratory workers should:
 - a. Change gloves when contaminated, glove integrity is compromised, or when otherwise necessary.
 - b. Remove gloves and wash hands when work with hazardous materials has been completed and before leaving the laboratory.
 - c. Do not wash or reuse disposable gloves. Dispose of used gloves with other contaminated laboratory waste. Hand washing protocols must be rigorously followed.
5. Eye, face and respiratory protection should be used in rooms containing infected animals as determined by the risk assessment.
6. Students with long hair must have it tied up.
7. Gas valves need to be shut off before the students leave the laboratory. There should be no more than 2 Bunsen burners on the lab bench. Gas lines of the Bunsen burners should **NEVER** cross each other and that the Bunsen burner should be flush with the lab bench. Students should **NEVER LEAVE THE FLAME UNATTENDED** and that they should **NEVER REACH OVER AN OPEN FLAME** to pick something up. Please walk around and pick up whatever it is you need.

8. **ELIMINATE** all the clutter in the room by hanging up all jackets and placing all personal belongings in the back of the room or the cupboards.

9. Any student with an open wound should cover it with a Band-Aid.

D. Laboratory Facilities (Secondary Barriers)

1. Laboratory doors should be self-closing and have locks in accordance with the institutional policies.
2. Laboratories must have a sink for hand washing. The sink may be manually, hands-free, or automatically operated.
3. The laboratory should be designed so that it can be easily cleaned and decontaminated. Carpets and rugs in laboratories are not permitted.
4. Laboratory furniture must be capable of supporting anticipated loads and uses. Spaces between benches, cabinets, and equipment should be accessible for cleaning.
 - a. Bench tops must be impervious to water and resistant to heat, organic solvents, acids, alkalis, and other chemicals.
 - b. Chairs used in laboratory work must be covered with a non-porous material that can be easily cleaned and decontaminated with appropriate disinfectant.
5. An eyewash station must be readily available.
6. There are no specific requirements for ventilation systems. However, planning of new facilities should consider mechanical ventilation systems that provide an inward flow of air without recirculation to spaces outside of the laboratory.
7. A method for decontaminating all laboratory wastes should be available in the facility for example, the autoclave.